

MINING

UNIVERSITY MICROFILMS
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ANN ARBOR, MICH

December, 1978

Volume 31, No. 12

Best wishes for an Old Fashioned

Merry Christmas

Happy New Year



Highway

HIGHWAY CONCRETE COMPANY



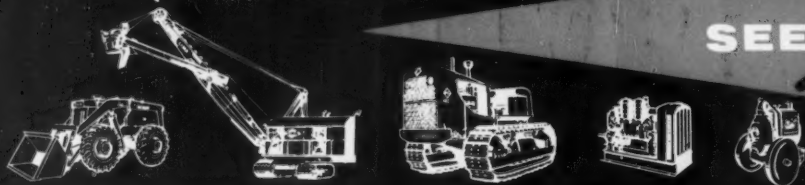
Concrete Structures • Water
Gates • Locks • Power-Pack Conveyors
Get More Information • Concrete Mixers and Bins
For More Information • Concrete Structures

For the best in all types of mining
equipment...

SEE

Highway

FIRST!



• No modern mine is fully equipped without

MICHIGAN TRACTOR SHOVELS



2 Michigan 175As work as team to speed coal handling.



Michigan 175A with scarifier is handy "all around" machine at Robert Bailey mine, Philipsburg.

This Michigan 175A on the Robert Bailey operation is the biggest, most powerful, fastest rubber-tired tractor shovel ever built.

There's well over 3 cubic yards in this Michigan 175A bucket at Pilgrim Coal Co., Volant.



Highway

EQUIPMENT
COMPANY

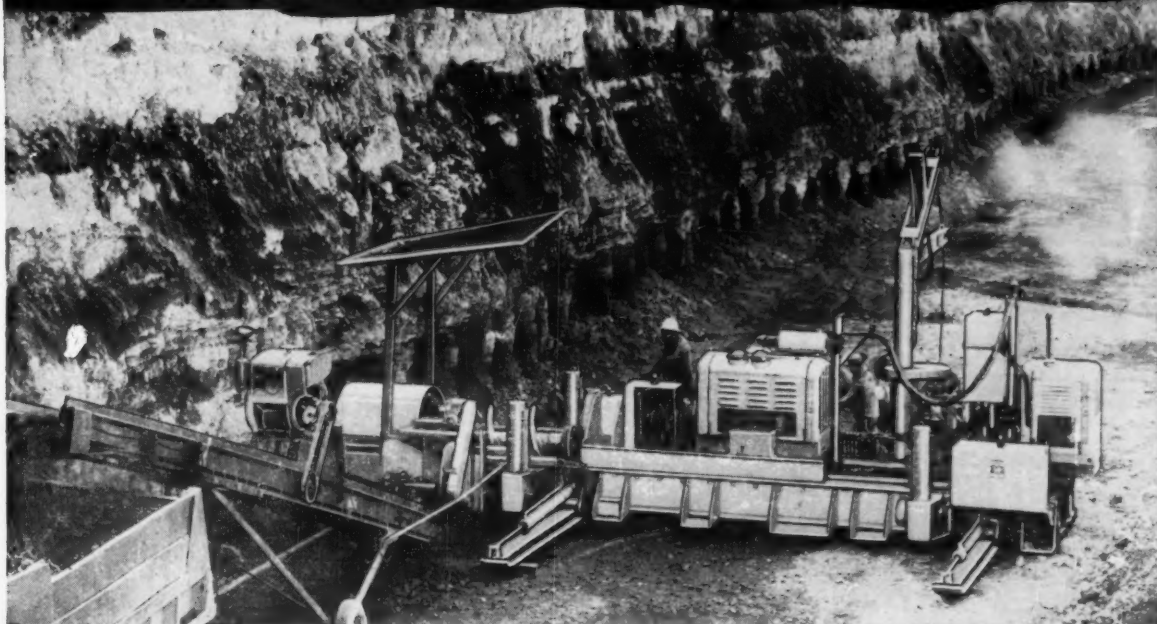
Allis-Chalmers • Lima Shovels, Cranes, Draglines • Master General Motors Diesel Engines • Power-Pack Conveyors Gar Wood • Lima Roadpackers • Burnmeister Mixers and Bins Michigan Tractor Shovels and Excavator-Cranes Thor • Jaeger

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CUT MINING COSTS

WITH **HEAVY - RUGGED - POWERFUL**

McCARTHY AUGER DRILLS



VERTICAL MODEL 106-24

**World's Fastest Heavy-Duty
Vertical Auger Drill**

Bores faster, deeper, larger dia. holes than any other auger drill. New gear reduction unit slows auger rotation for operation in hard rock formations. Drills 8" and 9" dia. holes readily in shale and sandstone formations, drills larger dia. holes up to 24" dia. in softer formations.

Write for Bulletin M-100

FINGER-TIP CONTROL



Gives Desired Rotating
Speed Of Auger

HYDRAULIC FEED



Provides Any Speed Up To 6 Feet
Per Minute Horizontal
Feed Of Drill

COAL RECOVERY

*"Walks" from hole to hole to auger
high-quality Bonus Coal*

An Ohio miner removes 450 tons of coal in each 6 1/2-hour working day with this Model 14 36-42 x 12' McCarthy drill, operated by two men. He drills 42" dia. holes 144' deep. Auxiliary conveyor eliminates spillage at hole. It operates on either side of drill for working blind cut. Twelve different models of McCarthy Coal Recovery Drills mine low-cost "bonus coal."

Write for Bulletin M-101 and M-102



HORIZONTAL MODEL 104

**Lowest Drilling Costs per
foot, Self-Propelled or
Truck-Mounted**

Bores up to 12" dia. holes to 150' depth faster, cheaper than any other horizontal drill. Requires less working space, saves many man-hours. . . operates easily in tight, hard-to-reach locations.

Write for Bulletin M-105

THE SALEM TOOL CO.

SOUTH ELLSWORTH AVENUE
SALEM, OHIO, U. S. A.



Published monthly by Modern Mining Publishing Company. Publication Office—Advance Printing & Litho Co., Erie, Pa. Editorial and Executive Offices, Erie, Pa. Pittsburgh Office: P. F. JASIK, Publisher, 4575 Country Club Drive, Pittsburgh 36, Pa. Price: In the United States, \$3.00 year; all other countries \$5.00. Single copy 25 cents. Entered as second class matter at the Post Office at Erie, Penna., under the act of March 3, 1879.

"We have doubled the amount of dirt we move since purchasing the Cat D9 and that means twice the coal output"



John A. Thompson

**John A. Thompson
Coal Co.
Bigler, Penna.**



Mr. Thompson bought his Cat D9 in August of 1956 and uses it on a coal stripping operation near Hyde, Pennsylvania. The D9 opens ahead of the stripping shovel and also back fills. There are 18 to 50 feet of overburden to be removed from a 30 to 32 inch seam of "B" vein bituminous coal. Mr. Thompson operates the D9 about 16 hours per day and, as he states above, is "well satisfied." He also claims, "The D9 is perfect for this type of work. We have plenty of power and the fact that everything is hydraulic makes that power easy to handle."

CATERPILLAR

**WANTED...
THE HARD WORK**

INCREASE YOUR COAL OUTPUT with **CATERPILLAR* D9 TRACTOR** **FROM BECKWITH**

For more than two years now, the Cat D9 has been in operation on tough coal stripping jobs and has met with overwhelming acceptance. The new 320 Flywheel Horsepower D9 is engineered for bigger-than-ever jobs . . . to increase your coal output . . . to make you more money . . . to speed backfilling . . . to break its own production records.

In no other type of business is the demand so great for proper balance of power, weight, traction and maneuverability at lowest cost. No other tractor meets these demands as well as the Cat D9.

If you want to step up production let us demonstrate the pace-setting D9 on your job. It has power aplenty with 260 HP at the drawbar and yet handles easier than most smaller tractors because of hydraulic boosters which provide easy steering, braking and clutching. Best of all, it's built to stay on the job week after week, month after month with a minimum of downtime because it's rugged and easy to service.

Name the date and we'll demonstrate either the D9 with torque converter or direct drive with oil clutch. Give us a call today!

COMPARE THESE SPECIFICATIONS

TORQUE CONVERTER DRIVE

HORSEPOWER: (Rated at sea level)320

Engine HP at Flywheel.320

OPERATING PERFORMANCE DATA: Drawbar pull—The Torque Converter drive will automatically adjust drawbar pull to the load within the following speed ranges.

Gear	Forward	Reverse
1	0-4.1	0-4.1
2	0-5.9	0-8.1
3	0-8.1	

ENGINE: Four-cycle, valve-in-head, turbocharged, diesel

Number of cylinders.6

Bore and stroke.6 1/4" x 8"

Piston displacement.1473 cu. in.

RPM—governed at full load.1240

N.A.C.C. horsepower rating for tax purposes.93.6

Lubrication (full flow filtering).Full pressure

Crankshaft. "Hi-Electro" hardened journals

Bearings (Precision-type steel-backed aluminum alloy).7 main bearings

Fuel injection system.Caterpillar-built

CLUTCH AND TORQUE CONVERTER: Dry-type, single asbestos-faced plate with over-center engagement. Three-stage torque converter using engine fuel for hydraulic fluid. Connected to transmission by double universal joint.

GENERAL DIMENSIONS: Gauge.90"

Length (over-all).17' 10 3/4"

Height (measured from tip of grouser of standard track shoe to highest point, exclusive of exhaust and precleaner).8' 9"

Width (over-all).9' 11 1/4"

Height drawbar above ground (measured from lower face of standard track shoe).21 7/8"

Ground clearance (measured from lower face of standard track shoe to lowest point of bevel gear case).20 1/2"

WEIGHT: Operating (approx.).58,745 lb.

DIRECT DRIVE

HORSEPOWER: (Rated at sea level)

Drawbar.260

Engine HP at Flywheel.320

OPERATING PERFORMANCE DATA:

Travel Speeds At		Std. Trans.		Drawbar Pull (lb.)	
Rated Engine	RPM	Gear	Rated	Max.	
1.7	150	1	54,200	63,000	
2.2	194	2	44,600	52,500	
3.0	264	3	30,900	36,600	
3.9	343	4	22,400	26,800	
5.0	440	5	16,800	20,200	
7.0	616	6	10,800	13,450	

Reverse (same as forward—6 gears)

Maximum drawbar pulls are calculated from rated pulls and based on the torque increase as the engine slows down under load. The maximum available pull will de-

pend on traction and weight of the fully equipped tractor.

ENGINE: Four-cycle, valve-in-head, turbocharged, diesel

Number of cylinders.6

Bore and stroke.6 1/4" x 8"

Piston displacement.1473 cu. in.

RPM—governed at full load.1240

RPM—at maximum drawbar pull (point of maximum torque).900

N.A.C.C. horsepower rating for tax purposes.93.6

Lubrication (full flow filtering).Full pressure

Crankshaft. "Hi-Electro" hardened journals

Bearings (Precision-type steel-backed aluminum alloy).7 main bearings

Fuel injection system.Caterpillar-built

TRANSMISSION: Unit construction. Selective-type speed change. Constant mesh helical gears. Filtered, full pressure lubrication for bearings—all spray directed on gears.

GENERAL DIMENSIONS: Gauge.90"

Length (over-all).17' 10 3/4"

Height (measured from tip of grouser of standard track shoe to highest point, exclusive of exhaust and precleaner).8' 9"

Width (over-all).9' 11 1/4"

Height drawbar above ground (measured from lower face of standard track shoe).21 7/8"

Ground clearance (measured from lower face of standard track shoe to lowest point of bevel gear case).20 1/2"

WEIGHT: Operating (approx.).59,095 lb.

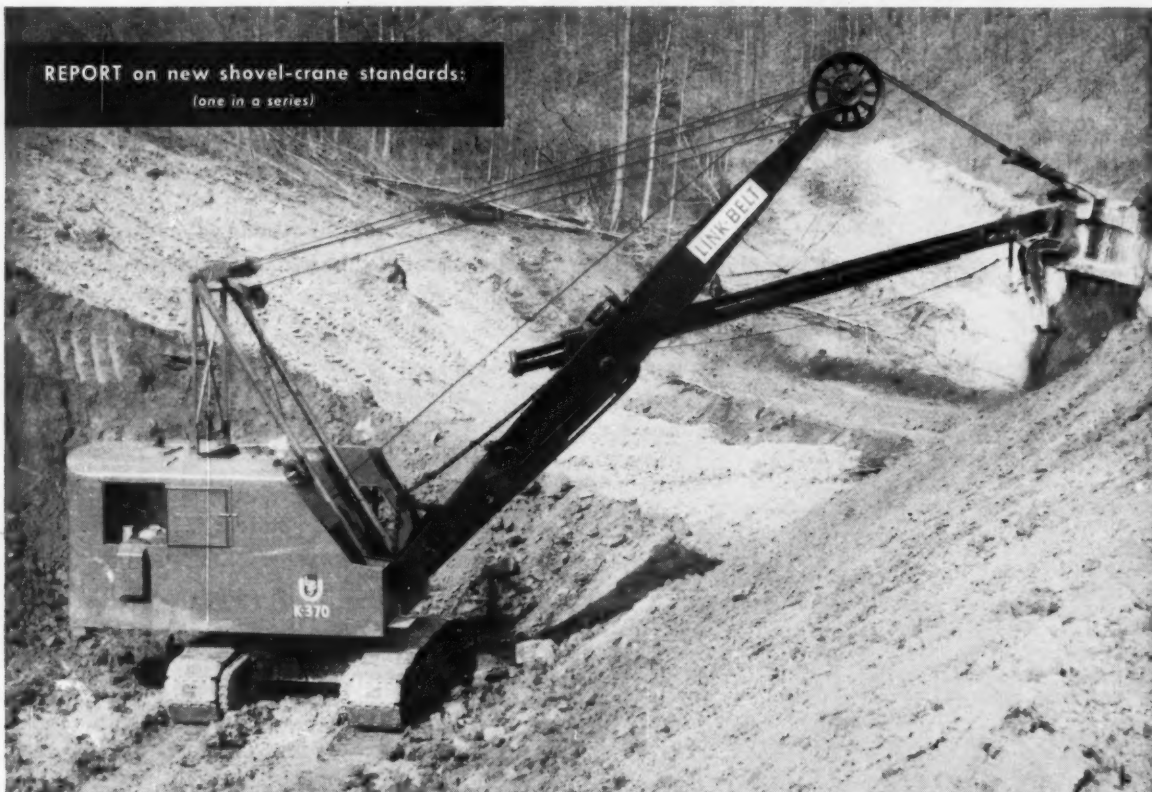
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6550 Hamilton Avenue • PITTSBURGH • Phone: MOntrorse 1-6900

REPORT on new shovel-crane standards:
(one in a series)



Power hydraulic controls provide fast, positive response . . . make the operator's job so easy that he's not subject to end-of-the-shift letdown. He's actually enthusiastic about pushing the ma-

chine to its high limit all shift long. "It sure is easy to operate . . . has all the power it needs," says the operator of this contour-stripping 1½-yard K-370 owned by B. G. & M. Coal Co., Manchester, Ky.

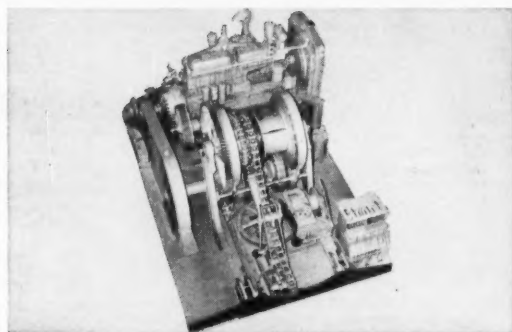
Getting bonus power...extra line pull

Link-Belt Speeder shovel-cranes now deliver more usable horsepower than other machines with the same engine

Why? Because a Link-Belt Speeder is engineered for extra-structural strength to take full advantage of the engine's available horsepower and still remain well within engine manufacturers' recommended speeds. For example, Model X when run at 750 rpm develops 125 hp . . . at 950 rpm it develops 150 hp!

Thus, with a Link-Belt Speeder on your job you've got more usable power—extra power to sock the dipper into the bank, come up with a full load. And you've more power, to hoist, swing and travel.

And bonus horsepower is but one of many reasons why Link-Belt Speeder owners have been able to completely revise and upgrade their standards of shovel-crane performance. Why not see your Link-Belt Speeder distributor for the complete story or write Link-Belt Speeder Corporation, Cedar Rapids, Iowa.



Size and strength of components

In a Link-Belt Speeder you'll find big, extra-strength shafts, clutches, gears and other components . . . units easily able to handle the extra power the machine's engine develops. Result—more production and yet lower cost of maintenance and service . . . less downtime, more work time.

14.327

It's time to compare . . . with

LINK-BELT SPEEDER

Builders of a complete line of shovel-cranes . . . with exclusive Speed-o-Matic power hydraulic controls

COAL MINING

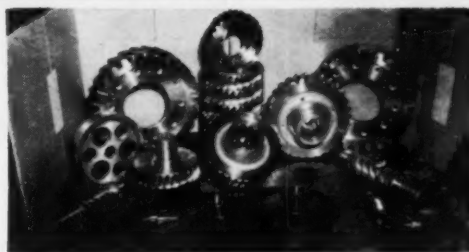
Vol. XXXIV

DECEMBER, 1957

No. 12

Contents

Do You Know	7
Here and There	7
Annual Meeting of the Independent Mineral Producers Association	9
Nothing Less than the Best Can Bring the Coal Industry Back to its Former Standing Among Industries	12
Auger Mining at the Dantella Brothers Coal Co.	17
West Virginia Panhandle's Largest Stripping Unit	18
Ideas to Reduce Absenteeism	20
Advertiser's Index	28



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"Talk up" increased
production—greater
safety...with these

M - S - A

.....
COMMUNICATION
.....

SYSTEMS

M-S-A MINEPHONE

Dispatcher sends orders instantly and simultaneously to all motormen with this modern, underground two-way voice communication system. Motormen receive and reply while trips are in motion—keep haulage movements coordinated with production demands. This results in smoother, faster, and more continuous trip movements throughout the mine.

Messages clear tracks for outgoing loaded trips and incoming empties. This system puts an end to traffic tie-ups, errors and accidents; prevents excessive stop-and-start strain on equipment. Write for more detailed information.



• Dispatcher sends orders to motormen . . . routes right-of-way traffic . . . receives reports on positions and station conditions.

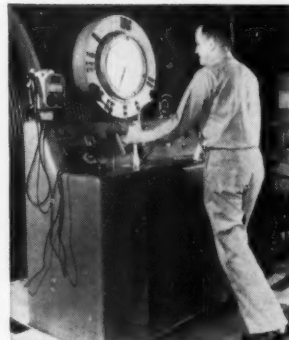


• "Jeep" operator requests instructions from dispatcher and maintenance shop for section assignment . . . speeds emergency repair.

M-S-A HOISTPHONE

For accurate, instant response between the hoisting engineer and cage, here's the voice communication system to install. Whatever the job—load leveling—shaft repairs—shaft inspection trips—passenger transportation—the M-S-A Hoist-Phone provides better safety and efficiency through dependable, continuous two-way voice communication at any level, and while the cage is in motion.

Requires no special training . . . simple to use . . . dependable in operation. Write for further information.



• The hoisting engineer is able to control all movements of the cage by communicating with cage rider over the M-S-A HoistPhone.



• Worker uses microphone in cage to tell the hoisting engineer where he wants to go. Loudspeaker mounted on top of cage.



When you have a safety problem, M-S-A is at your service . . .
our job is to help you

MINE SAFETY APPLIANCES COMPANY

201 North Braddock Avenue, Pittsburgh 8, Pa.

At Your Service: 77 Branch Offices in the United States and Mexico

MINE SAFETY APPLIANCES CO. OF CANADA, LTD.

Toronto, Montreal, Calgary, Edmonton, Winnipeg, Vancouver, Sydney, N.S.

Do You Know?

"We are not at the end of our progress, but at the beginning.

"We have but reached the shores of a great unexplored continent.

"We cannot turn back. There is no other direction to go but forward.

"It is man's destiny to ponder on the riddle of existence and, as a by-product of his wonderment, to create a new life on this earth."

These Ketisms typified the spirit of the celebration of the 80th birthday here (Aug. 29) of Charles F. Kettering, American inventor and manufacturer. Some 1500 friends and associates honored him and looked with him to the future.

Among the many achievements of "Boss Ket," as he is known by his associates in General Motors Corporation and elsewhere, are:

The electric cash register, automobile ignition and lighting systems, automobile electric self-starter, farm lighting system, organization of General Motors research laboratories, anti-knock tetraethyl lead, Freon refrigerant, and numerous other automotive research developments which were made under his direction. He led the development of Diesel engines, high-octane fuels and other achievements that play a major role in the U. S. war effort. Other research interest include inquiries into "why the grass is green" (chlorophyll and photosynthesis), fever therapy, and cancer research.

Since its organization in 1940, Dr. Kettering has been chairman of the National Inventors Council, the Federal committee that screens inventions and suggestions for use of the governments defense agencies. The council held a meeting to honor him in connection with the birthday celebration.

Union Switch and Signal — Division of Westinghouse Air Brake Company has received an order from the Clinchfield Coal Company covering the installation of electro-pneumatic car retarders and direct acting switch layouts in its Moss No. 3 Preparation Plant near Corbo, Virginia. The installation will facilitate and control the movement of coal cars, by gravity, from a dumper where raw coal is unloaded, through load pockets where cleaned coal is loaded and into the shipping storage yard. Provision for handling excess empty cars on a by-pass track is included.

HERE AND THERE IN THE COAL INDUSTRY



Luther C. Campbell

Luther C. Campbell, Pittsburgh, vice president of Eastern Gas and Fuel Associates, announced his retirement (Nov. 26) at a dinner given in his honor by officials of Eastern in the Black Knight Country Club, Beckley, W. Va.

"I have been planning my retirement for some time," Mr. Campbell stated. "With that in mind Vice President H. John Harper has been assuming more and more of my duties in directing all of Eastern's coal mining activities in West Virginia and Pennsylvania."

Mr. Campbell stated he plans to remain active in coal mining as a consultant at headquarters which he will open in Pittsburgh.

At the annual meeting of the Harlan County Coal Operators Association, held in Harlan, B. W. Whitfield, III, of Harlan Collieries Company was re-elected president, Joe Stras, Kentucky Cardinal Coal Corp., was re-elected vice president, and Cloyd D. McDowell was re-elected secretary. The Executive Board of the Association was re-elected as follows: Messrs. Kenes C. Bowling, John A. Brown, S. J. Dickenson, Charles S. Guthrie, L. P. Johnson, D. A. Perkins, R. C. Scott, Jr., E. B. Taylor, and A. F. Whitfield, Jr., with two new

members, Louis H. Green and Charles D. Cole.

Paul Morton of Cannelton Coal and Coke Co., and Lake Superior Coal Co., has been elevated to the position of executive vice president. Mr. Morton's headquarters are at Cannelton, W. Va.

Albert A. List, Dudley G. Layman and Major General Royal B. Lord, all of List Industries Corporation, have been elected members of the Board of Directors of Glen Alden Corporation, Francis O. Case, president of Glen Alden, announced today.

List Industries recently acquired, pursuant to an offer for tenders, about 675,000 shares of Glen Alden stock, approximately 38% of all outstanding shares. Glen Alden is the world's largest operator of anthracite coal mines. The newly elected directors increase Glen Alden's board from six members to nine.

Hazard Coal Operators Association, at the annual meeting in Hazard Ky., re-elected its officers and directors after a business session. The re-elected officers are: F. H. Davis, president; L. A. Hopper, vice president, and Fred Bullard, executive secretary and treasurer. Directors re-elected, in addition to Messrs. Davis and Hopper, are: Bruce Davis, C. E. Fannon, R. H. Kelley, John Mayhew, F. M. Medaris, R. P. Price, and C. E. Walker.

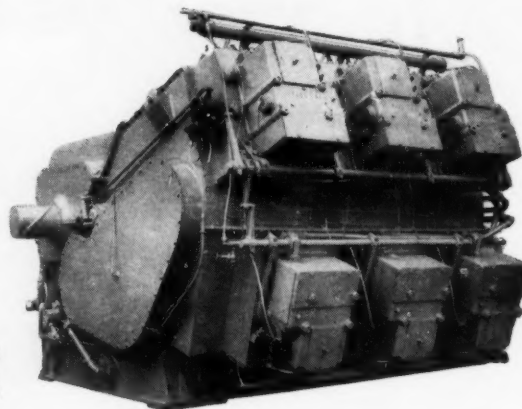
Members of the Executive Committee of the Kentucky Coal Association recently named Fred B. Bullard executive secretary and C. D. McDowell treasurer. The two men will divide duties previously exercised by the late George S. Ward as secretary-treasurer. Mr. McDowell also holds the office of secretary in the Harlan County Coal Operators' Association. Mr. Bullard is executive secretary of the Hazard Coal Operators' Association.

Page Engineering Company custom builds the

V-type Horizontal Diesel Engine

shown at right— for larger, more economical draglines of capacities up to 22 cu. yds.

Like the time-tested Page inline diesel, the V-type has the advantage of medium speed, interchangeable parts and complete accessibility of all moving parts for economical operation and low maintenance.



For Low-Cost Stripping

—cut down Cycle Time, with PAGE
Dependable Diesel Power

By using gravity to speed the bucket's dump and return, instead of reversing the direction of high-speed electric motors, the Page diesel powered Model 726 Walking Dragline saves as much as 13% over the cycle time of the conventional electric braking machine.

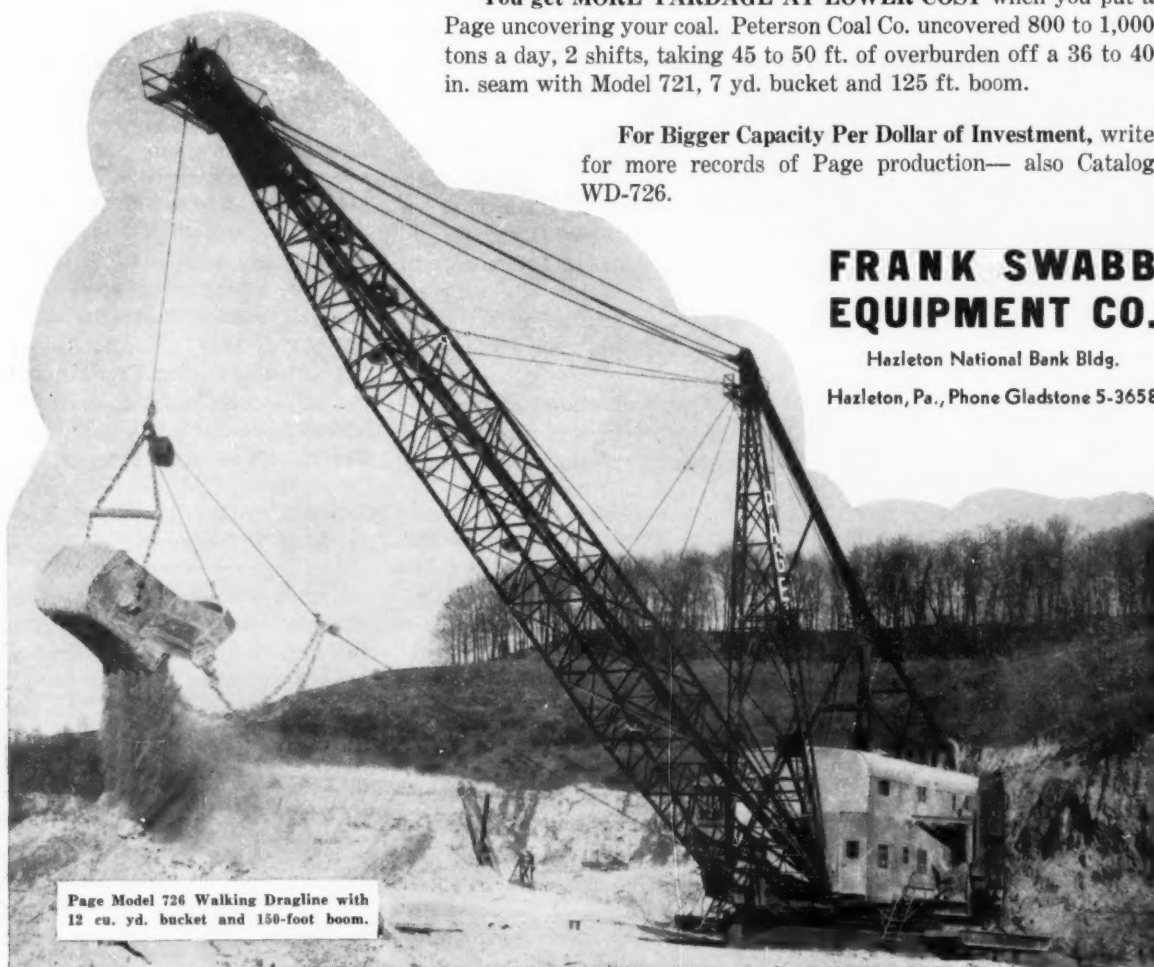
You get **MORE YARDAGE AT LOWER COST** when you put a Page uncovering your coal. Peterson Coal Co. uncovered 800 to 1,000 tons a day, 2 shifts, taking 45 to 50 ft. of overburden off a 36 to 40 in. seam with Model 721, 7 yd. bucket and 125 ft. boom.

For Bigger Capacity Per Dollar of Investment, write for more records of Page production— also Catalog WD-726.

FRANK SWABB EQUIPMENT CO.

Hazleton National Bank Bldg.

Hazleton, Pa., Phone Gladstone 5-3658



Page Model 726 Walking Dragline with
12 cu. yd. bucket and 150-foot boom.

Annual Meeting of the **INDEPENDENT MINERAL PRODUCER ASSOCIATION**

The Annual Meeting of the Independent Mineral Producers Association of Northwestern Pennsylvania was held at the Roosevelt Hotel, Pittsburgh, Pa. on Thursday, November 14.

The afternoon session of the meeting featured speeches by Carroll F. Hardy of the Bituminous Coal Institute and Robert Trace of the Sanitary Water Board of Pennsylvania.

A reception and cocktail party was given by the "B" members (Equipment Dealers) at 6 p. m., followed by the Annual Dinner in the main ballroom.



Left Mrs. C. Gutshall, Adm. Officer, Dept. Mines, Penna., Franklin Mohney V-Pres. and J. P. MacFarlane Secy-Treas. Independent Mineral Producers Assn. The Honorable Herman M. Rogers, Pres. Judge Mercer County Court, who was the toastmaster.



Left: Wm. Harder, Sunbeam Coal Co., Lewis Hohnka, Exec.-Secy. Central Penna. Open Pit Mining Assn. Robert J. Trice, Dep Att. Gen for the Commonwealth of Penna. W. Roy Cunningham, Dep. Secretary, Department of Mines, Pennsylvania.

The speaker at the banquet was Bob Bangham, a philosophical humorist from Columbus, Ohio, who not only furnished good, clean entertainment but mixed with it good, common sense philosophy that made one feel he has gained something for the time spent which is very seldom the practice of speakers at coal gatherings.

President, William L. Harger, Sunbeam Coal Corporation; Vice President, Clifford Turner, Turner Brothers; Executive Vice President, Franklin H. Mohney; Secretary-Treasurer, J. P. MacFarlane.

Left: Wm. C. Altvater, V-Pres. Pittsburgh & Shawmut Coal Co.; Robert R. Bangham, Exec. Secy. The Ohio Society of Certified Public Accountants and principle speaker, Lewis and Mrs. Evans, Penna. Dept of Mines. W. A. Crawford Att. for the Assn.





Left: Max M. Snyder, newly appointed sales manager for Beckwith Machinery; Bruce Andreas, Pittsburgh Manager Bucyrus-Erie Co.; Mike Mazzaro, coal stripper.

Left: Chess Stewart, Mellon Natl Bank, Ken Shaner, Highway Equip. Co.; C. H. Snyder, C. H. Snyder Coal Co.; J. J. Janssen, Highway Equip. Co. C. A. Dawson, Snyder Coal Co., Wesley Sinclair, Sinclair Coal Co.



Ralph Kuhns, John E. Teeter Coal Co.; United Eastern Coal Sales Co.; Ray Sonntag, Cummins Diesel Engine Co.; C. J. Semple, C. J. Semple Coal Co.; James O'Neil and David Bailey, Robt. Bailey Coal Co.; and David E. Williams, Penna. Dept Mines.

Left: Edward K. Wright and James Pugh, Anderson Equipment Co. Robert Bailey, Robert Bailey Coal Co., Ted Helsing, Highway Equipment Co. John Lengel and Walter Coyer of Coyer Coal Co. John Risko, U. S. Bureau of Mines, Carman D. Ambrosia, Ambrosia Coal Co.



Left: D. Newman, Allegheny Machinery Sales, R. F. Johnston, Crawford Equip. Co., R. S. Seely, Machinery dealer; R. Wyant, Clyde Milliken and Hal Dewalt, Allegheny Machinery Sales; W. J. Adcock and F. R. Wiederholdt, Monsanto Chemical Co.

Left; John Seyrolles, Coal Inspector, Pittsburgh Coal Co.; W. J. Redman, Beckwith Machinery Co.; Harry L. Craig, Craig Brothers Coal Co.; Geo. F. Weingart, Bucyrus-Erie Co.



**Nothing LESS
than the BEST**

can bring the

COAL INDUSTRY

back to its former standing among industries



Too many coal mining men have not yet grasped the seriousness of the economics confronting their industry. Too many do not have any idea, or do not care, of what conditions the industry must have to hold its former standing among industries in this nation.

Too much disregard of the seriousness of the facts could be catastrophic to the industry. Decisions that lie ahead will have to be proper ones—based on fact. Reasoning based on inadequate or inaccurate information will not produce correct conclusions. The greatest Univac that man could build will come up with wrong answers every time if information fed into it is wrong.

The coal mining industry needs

men trained and ready for the new scientific and technological advances but also with knowledge about the workings to properly care for the new mechanisms.

Pages of industrial history are

littered with bones of once prosperous industry that through complacency, ignorance or indifference let its strength be drained to a point from which it was unable to recover.

Take a close up

Big things are
happening to
Traxcavators*

NEW

Side Dump
Bucket

NEW

Automatic
Bucket Controls

NEW

Heavy-Duty
Undercarriage

NEW

Attachments



YOUR CATERPILLAR DEALER INVITES YOU TO TAKE A LOOK

Take a close-up
look at what's
NEW!



Traxcavator crowds heaped load into bucket.

NEW

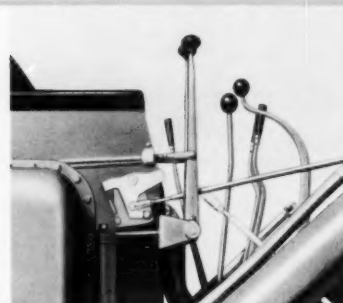
**Side Dump
Bucket**

STRAIGHT CYCLE LOADING

Now at your Caterpillar Dealer you will find new Side Dump Buckets, tried, proved—and available for the No. 955 and No. 933 Traxcavators: a 1½ cu. yd. bucket for the No. 955, and a 1¼ cu. yd. bucket for the No. 933.

NEW

**Automatic
Bucket Controls**



NEW

**Heavy-Duty
Undercarriage**

- Strong Track Roller Frames
- Solid Sprockets
- Heavier Track Groups
- Heavy-duty Front Idlers
- Tougher Track and Carrier Rollers

NEW

Attachments

Illustrated at the right are a few of many attachments available to increase the versatility of Traxcavators. Brand new attachments include Pulpwood Forks for all sizes—and Rippers for CAT* No. 955 and No. 977 Traxcavators.





Bucket tilts back 40° to retain full load.



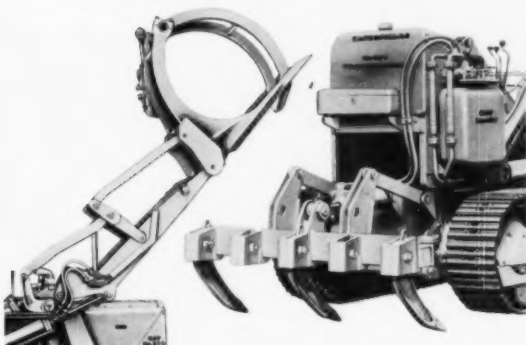
Unit backs, dumps, returns in straight line.

The Side Dump Bucket is another exclusive Cat attachment... an attachment that adds more versatility to Cat-built Traxcavators. Here's why:

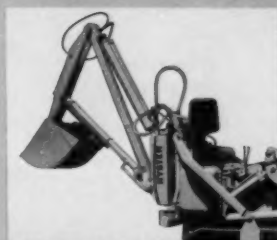
- Maneuvering is reduced to a simple forward-reverse movement.
- Turning to load is eliminated.
- Cycle time is reduced to a minimum.
- Material is cast to center of truck.
- Loading area is reduced.
- Either left or forward dumping is possible.

Exclusive—Automatic Bucket Control is now standard equipment on all Traxcavators. It automatically moves the bucket from the dump position to the dig position. This frees both hands for operation of the Caterpillar-built Traxcavator, speeds production, and reduces operator fatigue.

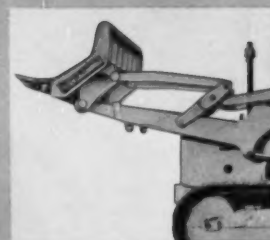
Three Traxcavators are now available with new, heavy-duty undercarriages, and are designated as No. 933, No. 955 and No. 977 (Series E) Traxcavators. Also available are the No. 955 (Series C) and No. 977 (Series D) Traxcavators with standard undercarriages. (Series E) Traxcavators are recommended for extra-severe applications in the toughest conditions.



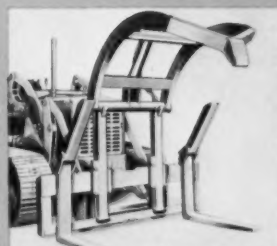
ATTACHMENTS TO INCREASE THE VERSATILITY OF TRAXCAVATORS



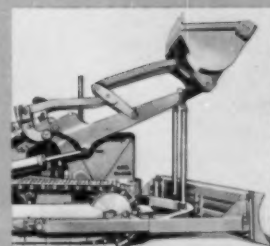
Hyster Backhoe.



Fleco Rake.



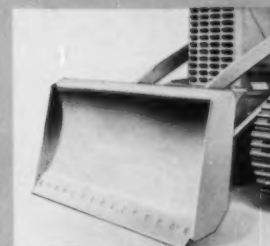
Top Clamp for Log and Lumber Forks.



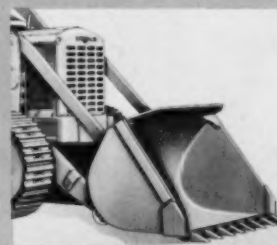
Angling Bulldozer Blade.



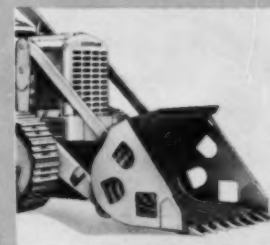
Variety of Buckets.



Straight Bulldozer Blade.



Quarry Bucket.



Skeleton Rock Bucket.

3 TRAXCAVATOR SIZES

PLUS TWO HEAVY-DUTY ARRANGEMENTS

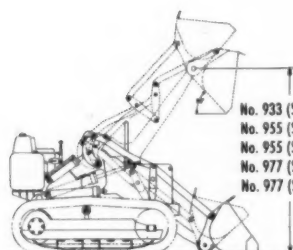
**more than a dozen time-saving,
production-boosting attachments**

Name your materials—your terrain—your types of applications—we've Traxcavators and equipment to match your needs. We have 3 sizes of Traxcavators, with a wide range of attachments. Take advantage of our many years of experience in the earthmoving-materials handling field in analyzing and evaluating your job requirements. We can help you select the Traxcavator and attachments that can help you get your job done quickly and profitably.

For the most convincing of all proof, ask us for a demonstration. We'll show you how Traxcavators belong in your profit picture!



TRAXCAVATOR SPECIFICATIONS



No. 933 (Series E)—119-1/16"
No. 955 (Series C)—128"
No. 955 (Series E)—128 3/8"
No. 977 (Series D)—141 1/2"
No. 977 (Series E)—144 1/4"

	No. 933 (Series E)	No. 955 (Series C)	No. 955 (Series E)	No. 977 (Series D)	No. 977 (Series E)
Engine — Cat Diesel (four-cycle, valve-in-head)	50 HP	70 HP	70 HP	100 HP	100 HP
Standard Bucket Capacity	1 cu. yd.	1 1/2 cu. yd.	1 1/2 cu. yd.	2 1/4 cu. yd.	2 1/4 cu. yd.
Dumping Clearance (45° discharge angle)	7' 11 5/16"	8' 3 3/4"	8' 4 1/8"	9' 3 3/8"	9' 3 3/8"
Dumping Height (center of hinge pin to ground)	9' 11 1/16"	10' 8"	10' 8 3/8"	11' 9 1/2"	12' 1/4"
Digging Depth (below ground with 5° initial digging angle set at ground line)	9 3/4"	12 1/4"	11 7/8"	13 5/8"	10 7/8"
Length	13' 10"	15' 1 1/4"	15' 1 1/4"	17' 1/2"	17' 1/2"
Width	5' 10"	6' 8"	6' 8"	8'	8'
Height	6' 3 13/16"	6' 10 1/8"	6' 10 1/2"	7' 3 3/4"	7' 6 1/2"
Weight	16,850 lb.	21,480 lb.	22,470 lb.	31,795 lb.	34,740 lb.

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FOR LEADERSHIP**

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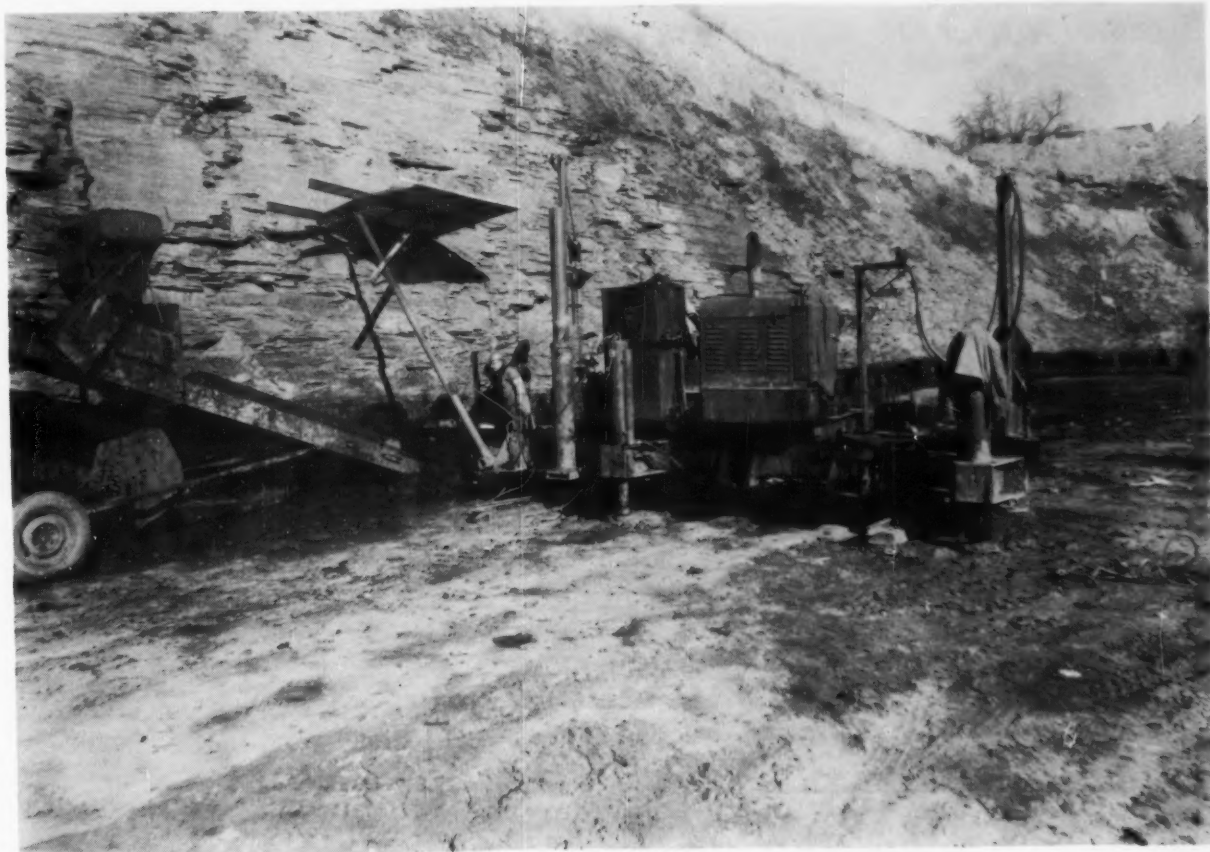
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CM-6



Over-all view of the machine, showing the end of auger in hole.

AUGER MINING

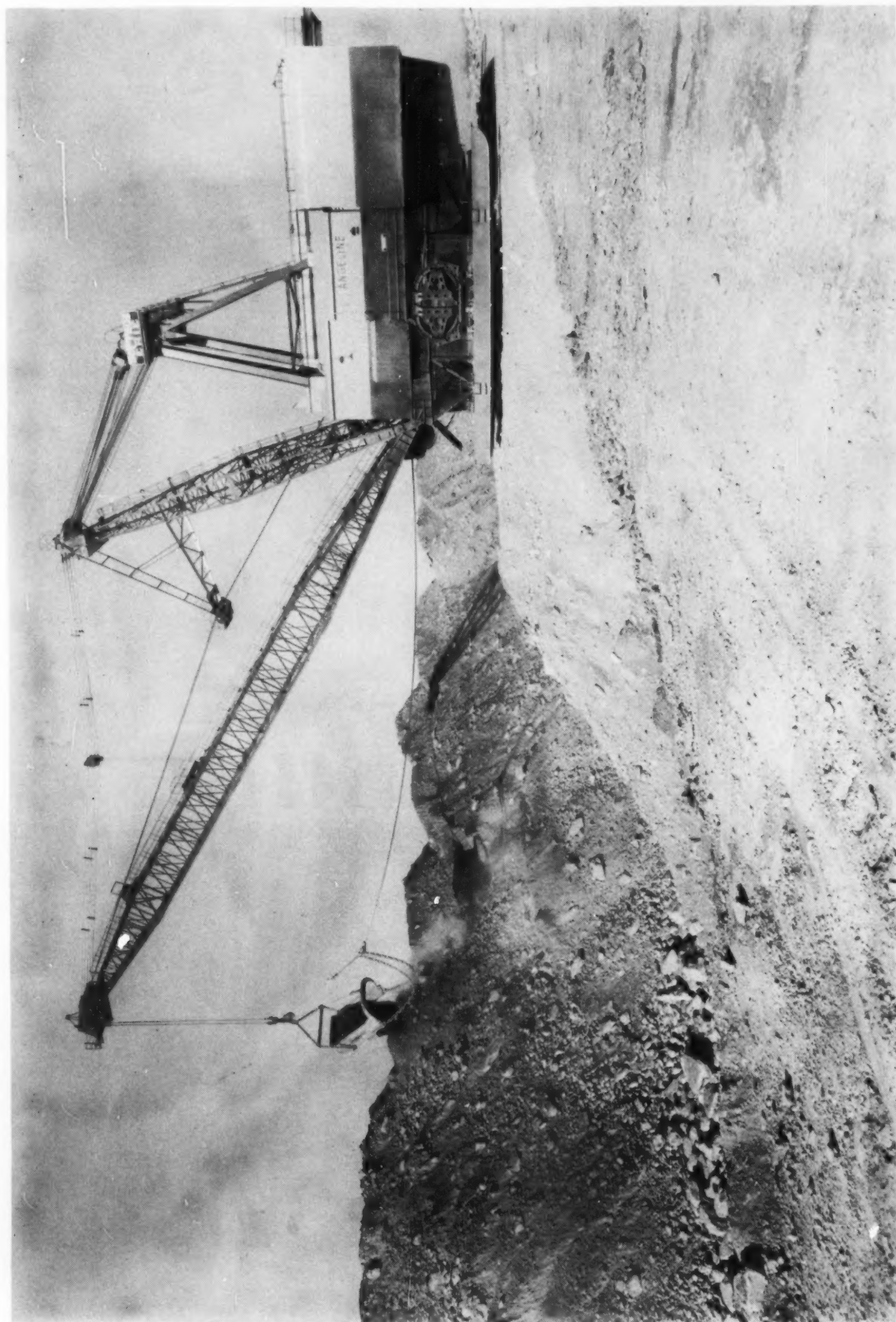
at the
**DANTELLA
BROTHERS
COAL CO.**

The Dantella Brothers of Cadogan, Pennsylvania are operating a strip mine in the Lower Freeport seam of coal north of Kittanning, Pennsylvania.

After the stripping shovel has moved the maximum overburden it is capable of, the seam is auger mined with a new McCarthy High-wall Auger. This method of mining is new to the Dantella Brothers and several methods of operation are being tried. Various tonnages have been produced by the various methods, neither of which has yet been decided upon as a permanent method of operation.



Close up showing cutter head starting hole.



Side view of ANGELINE, Weirton Construction Company's new 33 yard dragline, which is the largest stripping unit in bituminous coal East of the Ohio River.



Close-up, back view of ANGELINE, showing her dumping 33 yard load from a 71 foot cut.

WEST VIRGINIA PANHANDLE'S LARGEST STRIPPING UNIT

Carrying on operations in the West Virginia Panhandle, the Weirton Construction Company has recently installed the largest stripping unit in the Bituminous industry East of the Ohio River. This unit yard Bucyrus-Erie bucket moves up to 75 feet of over-burden on the Pittsburgh seam of coal averaging $3\frac{1}{8}$ in thickness.

The unit is driven by 4,000 volt power, has twin drag cables driven by two 500 horsepower motors and twin hoists driven by two 500 horsepower myors.

The overburden, consisting mostly of limerock, is drilled with a Bucyrus-Erie Model 42 drill which makes shot holes 9 inches in diameter and 67 feet deep.



The Model 42 blast hole drill, making 67 foot deep hole.

Ideas . . .

To Reduce Absenteeism

by PAUL LOCKWOOD



Absenteeism has been with us for a long time in the coal mining industry. However, it was not until recently that most top management men came to realize how much it cut into production, increased operating costs, and lowered the morale of the employees.

With absenteeism coming in for more and more analysis, many ideas for its control have been advanced. Here are some suggestions that have

been advanced. Here are some suggestions that have been used successfully to keep absenteeism at a low level in the coal mining industry:

1. Identify Offenders

Several firms have worked out a system of colored time cards that put the spotlight on the chronic absentee. These cards are placed in the card rack and are changed every month

as the absence record of the employee goes up or down.

For instance, in one firm when an employee has had a bad absence record one month, he gets a blue card the next time the month's time cards are distributed. If the record is not improved, the worker punches in on a red card the next month. The following month this absent worker does not have a card in the time clock rack.

2. Better Parking Facilities

Some executives have found that the parking problem is one of the basic causes of absenteeism. This develops into a serious problem when workers on the off shift have to park at a considerable distance.

In some cases this problem can be solved by a better arrangement of the existing parking area. White painted stripes on the parking lot will make it much easier to get maximum use from the parking area and will insure adequate parking facilities for all personnel of the coal mine.

3. Company Recreation

In addition to the advertising and public relations value of company sponsored recreation, there is a morale builder present in these programs. Renting a bowling alley one night a week, sponsoring a softball team in the local league, or planning trips for the family recreation will eliminate many Monday morning absentees. And, a cooperative spirit of enthusiasm develops when there is recreational activities for the employees.

4. Scientific Placement

Job boredom is a basic cause of the absent worker. Scientific placement of the right man on the right job will eliminate a great deal of this problem. But, when a man power shortage develops or layoffs are necessary, many firms are busy scrapping the bottom of the barrel or shifting older employees around. When problems like this develop, scientific placement of workers goes by the wayside.

This, of course, may cause the ab-

senteeism rate in the coal mine to increase. If advance plans are made for recruiting new employees or shifting older workers around to new job assignments, the placement will be more scientific and the absenteeism rate will decline.

5. Curtail Overtime

At first glance it would seem that overtime would be an incentive for steady work. However, the long hours and the excessive earnings go hand-in-hand with a high rate of absenteeism. Workers want to spend the money they are earning. They use the excuse of being worn out with long hours of overtime as a reason for not reporting to work.

6. Foreman Training

Supervisors who are skilled in the technical side of their work make it easier for a new employee to learn his job. Then, the second phase of supervisory training—human relations—should be stressed. Supervisors who know how to apply the rules of good human relations as well as teach job skills will find that the rate of absenteeism in their departments is at a low level.

7. Absenteeism Contests

Contest for the lowest rate of absenteeism in a section of a coal mine may provide the incentive necessary to control this problem. These contests should be for a definite time, should be scored easily, and the standings should be reported daily for best results. Suitable prizes for groups or for individuals should be determined that are not excessive in cost and yet provide the proper incentive.

8. Penalize Absences

Some firms have established a minimum number of absences during the six month period that will be accepted for an employee being considered for any promotion. This penalty, if known to all employees, will eliminate most of the absenteeism except in chronic cases. For these chronic absentees, the penalty probably will be the only alternative left—firing.

9. Better Production Scheduling

Absenteeism may be caused because production schedules cannot be maintained. For instance, a mine might work for six weeks or two months on a seven-day week, twenty-four hour a day schedule. Then, it will shut down for two or three weeks waiting for orders. This naturally causes an increase in absenteeism, but can be brought under control with better production schedules and sales planning.

10. Complicate Return Procedure

Some firms are of the opinion that the absenteeism rate can be reduced with a complicated return procedure. One firm, for instance, requires an employee who is absent more than one day due to sickness to report to the company doctor before returning to work.

This procedure makes it easier to report for work than to stay away unless there is really something physically wrong with the employee. Then, too, it will eliminate most half-baked excuses employees use after being absent for a few days on a fishing trip.



Davey Model M-8TA

• First models of the new Davey tractor-founded rotary air drills are now going into service on construction, mining and other drilling projects throughout the country.

In the above photo, a Model M-8TA unit is drilling culvert drain holes along the Erie Railroad right-of-way near Brady Lake, Ohio.

The new drill is said to be designed for extra-heavy jobs under the most severe working conditions. It has a rated capacity of 10-inch blast holes and 35,000 lbs. pull down pressure. Weight of the Model M-8TA, including tractor, is approximately 58,000 pounds.

Modern machine for combating the explosion hazard created by coal dust in active work areas of bituminous coal mines is the portable M-S-A Slurry Rock Dust Distributor being marketed by Mine Safety Appliances Company, Pittsburgh.

With the new distributor, one batch of slurry — mixed to a capacity of 400 pounds of rock dust to 24 gallons of water — permits satisfactory face dusting of 80 linear feet of mine entry.

To assure a balanced blend of thick slurry discharge that will adhere to

the ribs and roof of the mine, the rock dust and water is agitated in the tank by a rotating impellor. The slurry product-mix is then discharged directly through the hose at the rate of 80 to 100 pounds per minute at nozzle pressure of between 10 and 20 pounds, depending on the length of the hose.

As much as 600 feet of $\frac{3}{4}$ inch inside diameter hose can be employed efficiently in the rock dusting operation.

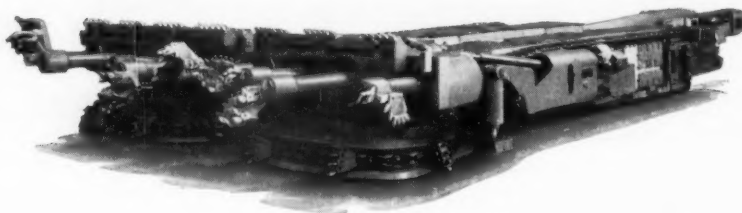
A special nozzle allows complete

control of the flow of slurry. When the nozzle valve of the hose is turned off while the motor is running, the slurry is recirculated to the tank where the continuous agitation of the mixture prevents separation of rock dust and water.

The new M-S-A Slurry Rock Dust Distributor — with its explosion tested motor and control of any desired voltage — is available from Mine Safety Appliances Company, Pittsburgh, in skid or rubber tired mounting.

Full face, low seam continuous mining machine

Only 25 $\frac{1}{4}$ " high
... 14' 7" wide



JEFFREY 86A COLMOL

Now you can have all the advantages of continuous mining in seams as low as 28 inches. The new 86A Colmol makes a cut 14' 7" wide, gives good cleanup and smooth bottom. Specially designed gathering and cutting chain smooths off the cusps, even when the breaker arm head is raised 8" for maximum adjustment of mining height. The chain carries coal to center of Colmol, then up onto the swinging discharge conveyor.

The compact, powerful Colmol advances with minimum maneuvering. Coal is broken from the face, not ripped or ground off. You get better overall screen consist, greater speed and efficiency. Colmol withstands the most severe operating conditions . . . operates with little noise or vibration.

All adjustments are hydraulic, can be made instantly and accurately. Easily accessible parts simplify adjustment and servicing. Safety features provide extra protection for both personnel and machine.

In seams as low as 28" . . . or as high as 96"

Jeffrey Colmols step up your production rate, cut operating costs. Write for full details. The Jeffrey Manufacturing Company, 969 North Fourth Street, Columbus 16, Ohio.



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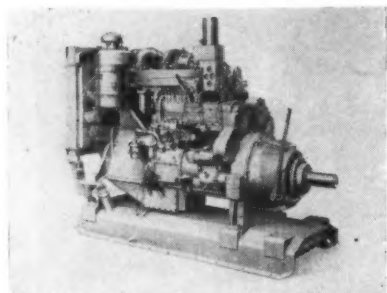


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AA-5886



The recently-introduced Caterpillar D352 Engine is a 6-cylinder, four-cycle, 6 $\frac{1}{4}$ " bore by 8" stroke diesel engine, rated at 390 (max. output) HP at 1300 RPM. When utilized as a Caterpillar D353 Electric Set, the unit has a rated output of 200 KW. The D353 has established a reputation of dependable power production through its two year history of serving as the power unit for the Caterpillar D9 Tractor.

• The Caterpillar D353 Engine, well-known as the power unit in the Caterpillar D9 Tractor, is now available in industrial engine, marine engine, and electric set arrangements, according to a recent announcement by Caterpillar Tractor Co.

The 6-cylinder, four-cycle D353 has a 6 $\frac{1}{4}$ in. bore and 8 in. stroke, and is rated at 390 (max. output) HP at 1300 RPM. The rated output of the Cat D353 Electric Set is 200 KW.

The introduction of this new en-

gine, after more than two years of operation under all conditions in the D9, rounds out the company's complete line of heavy-duty diesel engines.

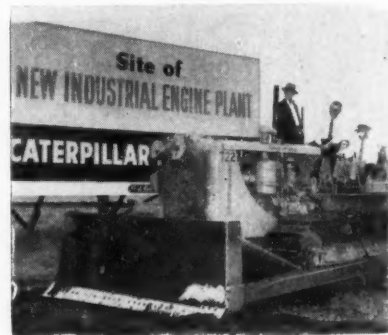
Many of the features incorporated into the new engine are the same as those found in the other engines comprising the company's line. Important among them is the Caterpillar fuel system, whose versatility allows operation on a wide variety of fuels without fouling. It is designed to operate equally well on No. 2 furnace oil or premium quality diesel fuels.

In addition, the camshaft on the D353 Engine is mounted high in the block, permitting the use of a short, rigid valve train, which produces accurate valve motion. Hardened steel valve seat inserts and positive valve rotators contribute to long, efficient valve seat life.

The turbocharging feature of the D353 utilizes waste energy from engine exhaust to pack more air into the cylinders. This results in the more complete combustion of fuel, and increased engine horsepower. Since the turbocharger does not produce a parasitic power load on the

engine, but uses energy which would otherwise be lost, the over-all efficiency and economy of the engine is increased.

Concurrent with the availability of the Cat D353, the company is also making available a full line of matched attachments. Such items as air, electric or gasoline starting systems; clutches; bases, controls and governors; cooling systems and mufflers have been specifically designed to match the new engine's performance in all applications.



Marking the beginning of construction on Caterpillar Tractor Co.'s new industrial engine plant, the company's president, Harmon S. Eberhard, moves the first bulldozer blade full of earth. With him on the Caterpillar D8 tractor are Robert D. McDougal, Jr., (left) president, McDougal-Hartmann Co., Peoria contractors, and H. H. Howard, Caterpillar vice president and manager of the company's Engine Division.

The new 500,000 sq. ft. engine plant will be the first site located 12 miles north of Peoria, Illinois. A multi-building research center and general offices building are slated for future construction.

To be completed by early 1959, the industrial engine plant will manufacture Caterpillar's two V-type engines, ranging in horsepower up to 650 (max.) It will also assemble industrial engine arrangements of other engines in the Caterpillar line. Initial site preparation, to be carried on by McDougal-Hartmann Co., calls for the moving of 600,000 cu. yds. of earth by mid-September.

• At the recent annual meeting of the Winding Gulf Operators Association in Beckley, W. Va., W. A. Haslam of Winding Gulf Coals, Inc., was elected president; R. B. Williamson, of the Lillybrook Coal Co., was named vice president; Hal M. Scott was re-named secretary and P. C. Graney of Sterling Smokeless Coal Co. was reelected treasurer.



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JOY EQUIPMENT — REBUILT

- 1—Joy 8AE Super 14BU Loader, rebuilt.
- 3—Joy 14 BU Loaders, low pedestal, 7AE.
- 2—Joy 14BU Loaders, medium pedestal, 7RBE.
- 1—Joy 14 BU Loader, high pedestal, 7BE.
- 2—Joy 12BU Loaders, 9E, latest type.
- 1—Joy 20BU Loader, latest type.
- 1—Joy 11 BU Loader, latest type.
- 2—Joy 8BU Loaders, 250 volt DC.
- 1—Joy 8BU Loader, 34" overall height.
- 2—Joy 8BU Loaders, 220 volt AC.
- 3—Joy curved bar heads, complete.
- 3—Reliance 38-J Motors, 10 H.P.
- 6—Reliance 24-J Motors, 7½ H.P.
- 5—Reliance 10-J Motors, 5 H.P.
- 20—9-J Motors, 4 H.P.
- 6—New Wheel Units for Joy 6 SC Shuttle Car.
- 1—Goodman 660 Loader on cats, excellent.
- 3—Goodman 665 Loaders on cats, latest type.
- 2—Joy 8SC Shuttle Cars, latest, low vein.
- 2—Joy 6 SC Shuttle Cars, rebuilt.
- 1—Joy 5SC Shuttle Car, rebuilt.
- 2—Joy 32E9 Shuttle Cars.
- 2—Joy 32E10 Shuttle Cars, rebuilt.
- 2—Joy 32E15 Shuttle Cars, rebuilt.
- 1—Joy 32E16 Shuttle Car, rebuilt.
- 2—Joy 42E16 Shuttle Cars, rebuilt.
- 1—Joy T-2-5 low pan Cat Truck.
- 2—Joy T-2-6 low pan Cat Trucks with reel.
- 2—Joy T-1 Standard Cat Trucks, 250 AC.
- 1—Joy T-1 Standard Cat Trucks, 250 DC.
- 2—Joy 11B Cutting Machines, like new.
- 1—Joy 7B Cutting Machine, like new.
- 3—Joy CD-22 Drills, like new.
- 2—Goodman 512 Machines with Bugbusters
- 1—Goodman Machine on Cats, 31" high. All hydraulic.
- 1—Goodman 512 Cutting Machine, perfect.
- 2—Goodman 512 Cutting Machines, 220 volt AC.
- 1—Lee Norse low vein Machine Carrier on rubber.
- 2—Jeffrey 70URB's, rubber-tired Cutters, Universal head, perfect condition.
- 1—Joy 11RU, rubber tired Cutters with bug-dusters, Universal head and dual tires.
- 3—Jeffrey 29UC Cutting Machines, Universal head, cuts anywhere in seam. 38" high, on cats, 250 volt DC.

LOCOMOTIVES

- 2—Jeffrey MH-2154's, 15 tons, perfect. 42" Ga.
- 2—Jeffrey, 13 ton, type MH-110, 36", 42" and 44" Ga.
- 2—Jeffrey, 10 ton, type MH-110, 42" and 44" Ga.
- 1—150 KW, 6 ph., A. C. Rotary Converter, 275 V.
- 12—Jeffrey, 6 ton, type MH-88, 42", 44" and 48" Ga.
- 8—Jeffrey MH-78 Locomotive Units—cheap.
- 4—Jeffrey MH-88 Locomotive Units, real bargains.
- 6—Jeffrey MH-100 Locomotive Units, reasonable frame.
- 1—Jeffrey, 6 ton, type 2186, 22" above rail.
- 3—Jeffrey, 4 ton, type MH-96, 42", 44" and 48" Ga.
- 1—G. E., 4 ton, type 825 Locomotive, 22" high.
- 10—G. E. 6 ton, types 801, 803, 821 Locomotives, 42", 44" and 48" Ga.
- 1—G. E. 8 ton, type 822 Locomotive, 44" Ga.
- 3—G. E. 10 ton, type 809 Locomotives, 42", 44" and 48" Ga.
- 1—Goodman, 4 ton, 8-30 Locomotive, 22" above rail.
- 2—Jeffrey, 8 ton, type MH-100, 2" armor plate rail.
- 2—Goodman type 33, 6 ton, 44" and 48" Ga.
- 3—Goodman, 8 ton, type 32A, 36", 44" and 48" Ga.
- 3—Westinghouse type 902, 4 ton, 42" and 48" Ga.
- 2—Westinghouse, type 904, 6 ton, 44 and 48" gauge.

- 2—Westinghouse type 906, 44" and 48" Ga.
- 2—Westinghouse type 907, 10 ton, 44" and 48" Ga.
- 2—Diesel Locomotives, 8 and 10 tons. Excellent. Locomotive Trucks and Spare Armatures for all the above

TIPPLE EQUIPMENT

- 1—Cedar Rapids portable super Screening Plant.
- 1—Allis Chalmers 5'x14' Rippflo Vibrator.
- 1—5'x14' Robbins double deck Vibrator.
- 1—4'x10' Robbins Gyrex Vibrator.
- 1—McNally Pittsburgh all steel tippie, four track, perfect.
- 1—Complete five track Tipple, all steel, with two compartment Jeffrey washer.
- 1—Menzi's tandem Hydro-Separator.
- 1—Belt Loading Booms.
- 1—Robins Car Shakeout.
- 10—Crushers, various sizes.
- Feeder, Drag Conveyors, and Loading Booms.

CUTTING MACHINES

- 2—Jeffrey 70URB Cutters, rubber tired, universal head, low vein.
- 3—Jeffrey 29UC Universal Machines on Cats.
- 1—Joy rubber-tired 11RU cutters with bug-dusters.
- 1—Goodman on cats, 31" overall height.
- 1—Baby Goodman 212, rebuilt, 250 volt DC.
- 1—Baby Goodman 212, rebuilt, 220 volt, 3 phase AC.
- 1—Goodman 312, 18" high.
- 2—Goodman 512's with Bug-dusters, like new.
- 4—Goodman 512's, rebuilt, or as removed from service.
- 2—Joy 11B Cutting Machines, rebuilt.
- 2—Goodman 512 Cutting Machines, 220 volt AC.
- 6—Goodman 12AA's and 112AA's.
- 2—Goodman 324 Slabbers.
- 2—Goodman 724 Slabbers.
- 6—Jeffrey 35L's, like new, 17" high.
- 2—Jeffrey 35L's, on low vein trucks.
- 15—Jeffrey 35B's and 35BF's.
- 2—Jeffrey 29B's on track.
- 2—Jeffrey 29C's, track mounted.
- 1—Jeffrey 29L on track, perfect.
- 2—Sullivan CR-10's, 18" high.

LOADING MACHINES

- 16—Loaders, all types.
- 2—Jeffrey 61CLR's on rubber, 26".
- 3—Jeffrey L-500 Loaders.
- 2—Myers Whaley No. 3 Automat Loaders.
- 2—Clarkson Loaders, 26" above rail.

CONVEYORS

- 2—Jeffrey 52-B, 30" conveyors, 1500' each. Excellent.
- 4—Joy 30" Underground Belt Conveyors, 500' to 2000' each, excellent.
- 1—Barber Greene 30" Belt Conveyor, 1000' excellent.
- 1—Robins 30" Belt Conveyor, 1000'.
- 2—Jeffrey 52-B, 26" Conveyors, 1200' each. 3000' Conveyor Belt, 30".
- 2—61EW Elevating Conveyors.
- 2—61WH 15" Boom Conveyors, 300 ft.
- 4—Joy Ladel Un-17 Shakers.
- 10—Goodman G-12½ and G-15 Shakers.
- 3—Long 400 DBH 15" Chain Conveyors, 20 H. P. Motors—new.

CONVERTERS AND DIESEL PLANTS

- 1—50KW, G. E. TC-6, 275 volt Rotary Converter.
- 2—100KW, G. E. TCC-6's, 275 volt, Rotary Converters.
- 1—150KW G. E. MCC-6, 275 volt Rotary Converter.

- 1—150KW, 6 phase, Allis Chalmers Rotary Converter, 275 volt DC, perfect.
- 1—200KW G. E. HCC-6 Rotary Converter, 275 volt DC.
- 3—300KW, G. E. HCC-6 Rotary Converters, 275 DC.
- 3—300KW Westinghouse, 6 phase, Rotary Converters, 275 volt DC.
- 1—375KW Westinghouse Rotary Converter, 275 volt.
- 2—500KW Westinghouse Rotary Converters, 275 volt DC.
- 1—200KW Westinghouse Rotary Converter, 275 DC.
- 1—200KW, Allis Chalmers Rotary Converter, 6 phase, 275 DC, perfect.
- (All the above with 6900/13000 and/or 2300/4000 primary transformers).
- 2—150KW MG Sets, General Electric and Westinghouse.
- 1—200KW MG Set, Westinghouse, rebuilt.
- 1—200KW MG Set, General Electric, perfect.
- 2—150KW Allis Chalmers MG Sets, 275 DC volt, excellent, 220-440 AC volt.
- 1—300 KW Westinghouse, 600 volt, MG Set, rebuilt.
- 2—300KW Westinghouse, 600 volt, 6 phase, Rotary Converters.
- 4—500KW Westinghouse, 600 volt, DC, 6 phase, Rotary Converters.
- 1—500KW HCC-6 Rotary Converter, 6 phase, 600 volt DC.
- 1—Cummins 125KW Diesel with 250 volt DC Generator.
- 1—G. M. C. Diesel Plant with 60KW Generator, 275 volt DC.
- 1—D-13,900 Caterpillar Diesel with 75KW Generator, 275 volt DC.
- 1—Allis Chalmers Natural Gas Engine with 100KW Generator, 275 volt DC.
- 1—700 H. P. Shaft Hoist, complete.
- Complete steam plant, will sell all or any part. Boilers, like new, 1100 H. P. and 500 H. P. Also transformers, turbines, etc.
- 3—Complete Tipples with Cleaning Plants. "2 all steel".

MISCELLANEOUS

- Battery Supply Tractors, rubber tired.
- 1—Cantrell Air Compressor on rubber tires.
- 10—Air Compressors, 1 H. P. to 40 H. P.
- 1—Ingersoll Rand Air Compressor 24" overall height on rail trucks.
- 40—Mine Pumps, all types.
- 1—Differential 40 Passenger Man-Trip Car.
- 6—MSA Rock Dusters.
- 1—American Mine Door Track Cleaner—new.
- 3—Phillips Carriers.
- 2—Barber Greene self propelled bucket elevators. Pipe, plastic, steel, transit, all sizes 1" to 6".
- 45—Mine Cars, drop bottom, 42" Ga.
- 30 Mine Cars, drop bottom, 44" Ga.
- 100—Mine Cars, 18" high, end dump, 44" Ga.
- 90—Mine Cars, end dump, 20" high, 48" Ga.
- 1—10 ton Mine Car Scale with Recorder.
- 1—150 ton Railroad Track Scale.
- 15—Brown Payro HKL and HG Car Spotters.
- 1—12 ton Differential Slate Lorry.
- Incline Hoists, 25 to 50 H. P.
- 1—Joy 5' Aerodyne Fan.
- 1—Jeffrey 6 ft. Aerodyne Fan.
- 1—Jeffrey 8' Aerodyne Fan.
- 1—Storage Tank, 8,000 Gallon.
- 2—Storage Tanks, 4,000 Gallon.
- 1—Storage Tank, 12,000 Gallon.
- 10,000 Five Gallon G. I. Cans, screw lids.
- 88 tons Relaying Rail 25½ to 80½.
- 500 Tons Relaying Rail, 25½ to 80½.
- 10 tons copper trolley and feeder.
- 300—Transformers from 1 to 2,000 KVA, 110 to 13,000 primary volts.
- 400—Electric Motors, 3 to 250 H. P.
- Huge stock of Mine Supplies.

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THOUSANDS OF OTHER ITEMS

• George S. Ward, secretary of the Harlan County Coal Operators Association at Harlan, Ky., for more than a quarter-century, died in a Knoxville hospital Sept. 21st. Mr. Ward, who was 67, had suffered from a heart condition for some time.

A new two-page bulletin describing its APA drag bit drill head is announced by Austin Powder Company, Cleveland.

Literature discusses and illustrates in detail how the step drilling pattern of the APA can increase penetration and reduce bit wear in air drilling of soft rock formations. It also shows that less machine weight is needed for rapid cutting and possibility of bits balling-up is eliminated.

Another important bulletin feature is an explanation of the advantages of the special APA carbide-tipped bits. These are said to be furnished with tapered shanks that drive-fit firmly into the drill head so that wedges and set screws are not needed. Unlike blade-type drill heads, bits can be quickly replaced with hammer and punch.

For copies, request form LL-6126, Austin Powder Company, Cleveland 13, Ohio.

USED EQUIPMENT

ITEM 257-P564: Caterpillar D9 Tractor with Cat. No. 29 Cable Control and Cat 98 Blade. Here is your chance to the "Giant of the Bulldozers" (a real high production machine) at a low price. Installed new pins and bushings in track, new turbo-charger, new rings and one liner and reconditioned heads on engine. This machine is in "like-new" condition. Buy it at \$14,000 off the new price. F.O.B., Pittsburgh, Pa.

ITEM E227: International TD9 Tractor with Bucyrus-Erie Hydraulic Angledozer. This machine has been carefully checked over and is in good operating condition. A lot of good work life left in this machine at bargain price of \$4500. F.O.B., Erie, Pa.

ITEM WV225: Cletrac BDH Installed new track links, rebuilt Hydraulic Angledozer and Carco Model EA Winch. This is a versatile unit and in good condition. Diesel Tractor mounted with Heil spring. Invest \$4,700 in this machine and go to work.

F.O.B., Clarksburg, W. Va.

ITEM P652: Cat D7 Tractor, equipped with Cat Control and an Angle Blade. Good working condition and can be put on your job for only \$2,800.

F.O.B., Pittsburgh, Pa.

ITEM P660: Caterpillar Model D8 Tractor with straight Blade and rear double drum Cable Control unit. Repaired steering clutches and seals; replaced pinion and ring gear, dead shaft and sprocket left side; replaced seals and bearings and installed new sprocket on right side; tuned engine; adjusted master clutch; running gear in good condition. \$5,000.00. F.O.B., Pittsburgh, Pa.

ITEM P632: Caterpillar No. 11 Auto Patrol, Tandem Drive; Wt. 18,500 lbs.; 12 ft. Blade. Diesel engine recently reconditioned; tires are good, approximately 65% new; installed new shaft in tandem drive; adjusted operating clutches and brakes; steam cleaned and painted. \$2,500.00 F.O.B., Pittsburgh, Pa.

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54-B Bucyrus Erie Drag, 120', 5 yd.
2400 Lima 5½ yd. H. L. Shovel.
120-B Bucyrus Erie 4 yd. Elec. Shovel.
1201 Lima 3½ yd. Standard Shovel.
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- 1—D-7 Dozer

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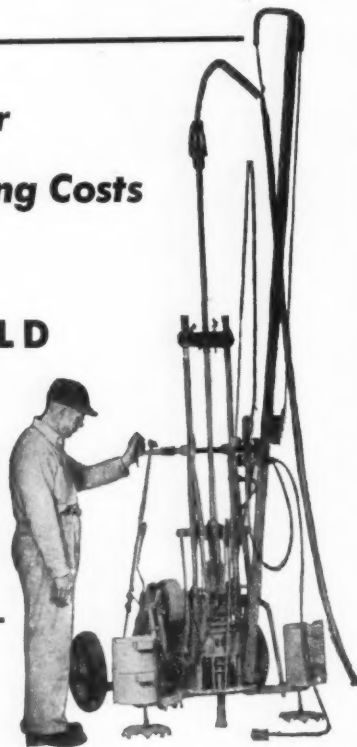
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ADVERTISER'S INDEX

DECEMBER, 1957

Beckwith Machinery Co.	2-3, 13-14-15-16, 26
Cleveland Brothers Equip. Co., Inc.	13-14-15-16
Fish, J. T.	25
Foster, L. B.	26
Greensburg-Connellsville Coal & Coke Co.	26
Highway Equipment Co.	1st, 2nd, 3rd Cover, 23
Hossfeld Mfg. Co.	28
Jeffrey	22
Licking View Tool & Machine Co.	5
Link-Belt Speeder	4
Lusk Co., Harold C.	5
Mine Safety Appliances Co.	6
Moon & Sons, Inc.	5
Northeastern Supply Co.	24
Ohio Machinery Co.	13-14-15-16, 27
Salem Tool Co.	1
Simpson, T. L.	26
Swabb Equipment Co., Frank	8, 26
Walker Machinery Co.	13-14-15-16

• A new bulletin offered describes a portable machine for discharging a mixture of rock dust and water in bituminous coal mines for on shift rock dusting. The machine is known as the M-S-A Slurry Rock Dust Distributor, approved by the U. S. Bureau of Mines.

The Distributor is capable of dusting 80 lineal feet of mine entry with one 400-pound batch of slurry. It has a tank capacity of 42 gallons, nozzle pressure of 10 psi, and a discharge rate of 80 pounds of dust per minute. Up to 600 feet of hose length can be used with the unit.

The machine is equipped with an explosion-tested motor and control of any desired voltage, and is available in skid or rubber tired mounting. Complete description and catalog information are available. Write for Bulletin No. 1201-4, Mine Safety Appliances Company, 201 N. Braddock Avenue, Pittsburgh 8, Pa.

• The Allis-Chalmers B-125 power unit is described in a new 8-page, two-color catalog (MS-1247) now available from the Tractor Group, Allis-Chalmers Manufacturing Co., Milwaukee, Wis. Various components of the unit are illustrated.

Two large cutaways of the B-125 occupy center spread position in the catalog. Included also are B-125 specifications, and a list of special equipment available to expand the versatility and use of the engine.

• The Allis-Chalmers pocket-sized line catalog (MS-1272) has been revised to include its turbo-charged HD-21 Diesel Powered crawler tractor, and the new TS-160 motor scraper, and is now available by writing the Construction Machinery Division, Tractor Group, Allis-Chalmers Manufacturing Co., Milwaukee, Wis. Each unit in the line is pictured in the booklet which gives information about the size, capacity, weight, horsepower and other pertinent facts of each unit.

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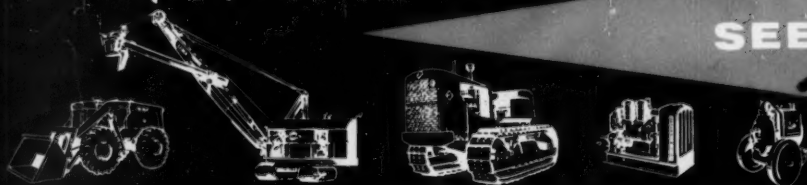
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